

15 Secret Tips That will Change Everything You Think You Know About On-Sites

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Navigating one's way through the lighting section of a local big box store almost necessitates a tour guide in the current lighting market. While the universally familiar A-line incandescent bulb once dominated the shelves, consumers now have myriad options available to them. In response, stores have set up displays to educate customers on the many bulb shapes, temperatures, and technologies, and how these bulbs actually look once installed. But evaluators and program administrators don't know what people are actually installing, and where, until they can verify these installations on-site.

While on-site data collection provides an opportunity to collect volumes of data, the process presents numerous challenges for the researcher to ensure that the data are of the highest quality with minimal errors. For example, technicians are often temporary employees without specialized experience in the research field; the data collection task is physically and mentally demanding; a large amount of data are collected at each site, with each item presenting an opportunity to introduce errors; there can be pressure to complete a visit quickly and move on to the next site; and it can be difficult to confirm the accuracy of data collected once the visit is complete.

This poster examines the results of a series of such site visits and demonstrates how methodological changes in data collection techniques can improve the quality and experience of on-site data for any research topic. Our experience conducting over 2,000 visits since 2009 has revealed that there are many opportunities to introduce error in the data collection process—regardless of subject. A better understanding of and exposure to the potential sources of error has led to iterative process improvements and verified quality control techniques. Our research has produced enhanced data collection processes and protocols that have not only improved data quality but simplified analysis.

The main goal is to communicate the importance of quality. On-site data collection is expensive and time consuming. It is only worthwhile if data is of the highest quality. The first step in achieving high-quality data collection is to communicate to everyone that quality is the first priority, even if that means sacrificing time or budget. We strive to make it clear to technicians, analysts, clients, and subcontractors that the main goal is data quality and credibility, even if that means sacrificing time or budget. In the end, however, our data collection improvements have not only led to high quality data, but also to more efficient and thorough data collection processes.

The data collection improvements are as follows:

Innovative Training of Technicians: NMR developed a comprehensive and innovative, two-stage training process for our on-site technicians. Dedicating the time and resources to training vastly improves data quality and reduces error substantially.

1. **Independent Training:** The technician begins with three self-training tasks: a store visit, a thorough review of the on-site protocols, and a mock site visit.
2. **In-Person Training:** Classroom and real-world training in with each technician leads a full on-site visit while a trainer accompanies them.

Standardization and Simplification of Data Collection: NMR developed a series of standardized data collection tools and reference materials to guide technicians through their on-sites and minimize data collection errors.

3. Electronic Data Capture Forms: Customized data collection software that enables the on-sites to be completed on a tablet computer.
4. Comprehensive Project-Specific Handbook: A single source reference guide for all protocols, definitions, and data collection instructions used for the on-site project.
5. Home Schematics: A sketch of the home to help technicians conducting a panel visit orient themselves and find what data were previously collected throughout the home.
6. Detailed On-site Protocols: Designed to guide the technician through the on-site, starting as soon as a technician encounters the customer and directs them through the entire process of the on-site.
7. Careful and Systematic Scheduling: Using mapping software, scheduling on-sites that are geographically proximate in order to provide technicians with sufficient time to complete high-quality data collection.
8. For Panel Studies—Leave a Mark: Identifying a bulb, HVAC system, appliance or household electronics with a small mark or a sticker allows data to be compared over time.

Real Time Quality Control: Quality control measures allow NMR to identify errors or inconsistencies early, correct them and make any necessary adjustments to the protocols or technician staffing.

9. Daily Data Review: Technicians sync the data every night and every morning; a vital step as it allows for timely data review and for any schedule updates to come through in a prompt manner.
10. Quality Assurance Visits: Team revisits a sample of homes from each technician early on in the project to check the quality of data collection.
11. Quality Assurance Calls: Staff call 20% of participants to ensure that their experience with the field technician was satisfactory.

Communication and Consideration with On-site Technicians: Clear communication and flexibility with technicians along with opportunities for feedback create a work environment in which technicians can thrive and collect high-quality data; a happy technician leads to a better dataset.

12. Remain Available: Being accessible, even during weekend and evening on-site visits, to answer questions, resolve any on-site issues, or address any changes in the schedule shows the technician that we appreciate their time and hard work.
13. Provide Flexibility: Allowing technicians some input into their schedules can remove personal barriers or hurdles from data collection.
14. Utilize Local Resources: Local employees are familiar with the area and in tune with the local culture.
15. Solicit Feedback: Team aims to create a feedback loop to help improve current and future visits.